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the anatomical descriptions are in some cases omitted or incomplete, that the keys were not in all cases revised to meet the new classification, and that the limits of Mr. Simpson's contributions were not more definitely marked. We also note that *Atax*, the common Hydrachnid parasite of the clam, is incorrectly reported as *Diplodontus*. The plates — half-tones from photographs of the shells — afford abundant illustrations, and are in some cases excellent, though they at times fail to reveal important details of structure, such as the beaks and the hinge teeth. The full descriptions, the abundant illustrations, and the keys make the work a valuable handbook for American collectors and students of fresh-water Pelecypoda. C. A. K.

Rotifera and Protozoa of the Illinois River. — The local and seasonal distribution of ninety-three Protozoa and one hundred and eight Rotifera is given by Mr. Hempel[1] as a result of his examination of towings made during 1894 and 1895 in the Illinois River and its adjacent waters. The results reported afford further data indicative of the cosmopolitan distribution of these groups, and the similarity of the pelagic fauna of the fresh water of Europe and America. Some species occur throughout the whole year, or a greater part of it, while others recur only at stated seasons; some reach a maximum in the spring, others in the summer, and still others in the fall, while some reach this condition only in the winter, breeding abundantly under the ice. The predominance of the Brachionidæ among the Rotifera is noticeable. One new species, *Difflugia fragosa*, is described.

C. A. K.

Diurnal Migration of the Plankton.[2] — A single series of observations on the quantity of plankton at certain levels in Lake Leman, by Dr. H. Blanc, suggests a considerable vertical movement, especially of the Entomostraca, toward the surface during the night. Catches were made at the surface, and at depths of 20, 40, and 60 meters in water 100 meters deep. The volume of the catch from surface water at 4 A.M. was 25 times as great as it was at 4 P.M. A large increase also occurred in the catch at the 20-meter level, while at 40 and 60 meters there was no considerable change. The afternoon catch at the surface contained few Entomostraca, but these increased at this level during the night, the Copepoda appearing before the Cladocera, the maximum being attained at 4 A.M. The night catches at the surface and at 20 meters contained great numbers of Ceratium in division. Migration, reproduction, and growth are all factors in this increase in the nocturnal plankton in the superficial layers. No report is made upon the total vertical content of the water, and the data do not afford any clue to the extent of the migration suggested. The position of the thermocline is not indicated.

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[1] Hempel, A. A List of the Protozoa and Rotifera found in the Illinois River and Adjacent Lakes at Havana, Ill., *Bull. Ill. State Lab. Nat. Hist.*, vol. v (1898), pp. 301–388.

[2] Blanc, H. Le Plankton nocturne du lac Leman, *Bull. Soc. Vand. Sci. Nat.*, vol. xxxiv (1898), pp. 225–230, Pl. II.

C. A. K.

Plankton of the Oder.[1] — This potamoplankton is characterized by Schröder as variable, being at a minimum during the winter when the stream is frozen, and in March when it is at flood and full of silt. It attains a maximum during a period of low water in the latter part of the summer. The plankton of the main current is less abundant than that of contiguous bays or of adjacent ponds supplied by the river. It is suggested that the plankton content of flowing water is inversely proportional to the fall of the stream. At all times the phytoplankton of the Oder is relatively small, and is largely composed of diatoms. In the shallower and warmer water of the ponds the Bacillariaceæ are replaced by the Chlorophyceæ and Phytomastigophora. Thus, in general, the diatoms thrive best in cooler water, as in mountain lakes and cold streams, while shade and access of running water favor their development in ponds. In the plankton of the Atlantic Ocean, also, the diatoms predominate in the arctic waters, and are replaced by the Peridinidæ and Schizophyceæ in warmer regions.

C. A. K.

Notes on Nematode Parasites. — 1. It is not often that one is called upon to record valuable contributions to zoölogical literature from the pen of a botanist, but the recently published work of Stone and Smith[2] on nematodes is deserving of more than passing notice. The root-galls produced by certain species of this group are the cause of considerable damage among cultivated plants, and the authors, who were drawn to investigate the subject by reason of its economic importance and bearing on their own department, have given it

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[1] Schröder, B. Planktologische Mitteilungen, *Biol. Centralb.*, Bd. xviii (1898), pp. 525–535.

[2] Stone, Geo. E., and Smith, Ralph E. Nematode Worms, *Division of Botany, Bull. No. 55, Hatch Experiment Station Mass. Agr. College* (November, 1898). 67 pp., 12 plates.